

## **"Why Mustard oil beats Sunflower, Safflower, Soyabean & other Omega 3 fatty acid rich oils ? - an analysis"**

The 5 pillars of heart health are - Omega-3's, Antioxidants, Potassium + magnesium, B vitamins, Fruits and vegetables

Essential Fatty Acids are the "good fats" all over the news these days, and a very hot research topic. For example, good fats compete with bad fats, so it's important to minimize the intake of trans fats and cholesterol (animal fat) while consuming enough good fats. Also, good fats raise your HDL or "good cholesterol". One of the jobs of this High Density Lipoprotein (HDL) or "good cholesterol" is to grab your bad cholesterol, LDL (Low Density Lipoprotein), and escort it to the liver where it is broken down and excreted. In other words, these good fats attack some of the damage already done by the bad fats. This is very important in an age when so many people are struggling to get their cholesterol down, and fight heart disease and obesity.

As it is obvious, Oils rich in Omega 3 Fatty acids are crucial for optimal health and metabolism. The types of oils one should ideally consume is a matter of unending scientific debate. Over the past few decades, all kinds of theories have been proposed regarding the ideal dietary intake of various oils. However, no consensus exists in the medical community regarding which oils to consume, and in what quantities. It is advisable to include a variety of oils in the diet, in moderation, with particular emphasis on omega3 fatty acid rich oils.

The omega 3 polyunsaturated fatty acids have had a major impact on thinking in medicine. The parent fatty acid in the omega 3 fatty acid family is alpha-linolenic acid (ALA) which is an essential fatty acid found in high concentrations in certain plant oils, such as mustard oil, walnut oil and canola oil.

Several longer chain or derived omega 3 fatty acids are formed from alpha-linolenic acid, such as EPA and DHA, and these are mainly found in fish, fish oils and from other marine organisms.

### **Essential Fatty Acids (EFAs)**

Essential Fatty Acids (EFAs) are necessary fats that humans cannot synthesize, and must be obtained through diet. EFAs are long-chain polyunsaturated fatty acids derived from linolenic, linoleic, and oleic acids. There are two families of EFAs: Omega-3 and Omega-6. Omega-9 is necessary yet "non-essential" because the body can manufacture a modest amount on its own, provided essential EFAs are present. The number following "Omega-" represents the position of the first double bond, counting from the terminal methyl group on the molecule. Omega-3 fatty acids are derived from Linolenic Acid, Omega-6 from Linoleic Acid, and Omega-9 from Oleic Acid.

EFAs support the cardiovascular, reproductive, immune, and nervous systems. The human body needs EFAs to manufacture and repair cell membranes, enabling the cells to obtain optimum nutrition and expel harmful waste products. A primary function of EFAs is the production of prostaglandins, which regulate body functions such as heart rate, blood pressure, blood clotting, fertility, conception, and play a role in immune function by regulating inflammation and encouraging the body to fight infection. Essential Fatty Acids are also needed for proper growth in children, particularly for neural development and maturation of sensory systems, with male children having higher needs than females. Fetuses and breast-fed infants also require an adequate supply of EFAs through the mother's dietary intake.

EFA deficiency is common in the United States , particularly Omega-3 deficiency. An ideal intake ratio of Omega-6 to Omega-3 fatty acids is between 1:1 and 4:1, with most Americans only obtaining a ratio between 10:1 and 25:1. The minimum healthy intake for both linolenic (Omega-3) and linoleic (Omega-6) acid via diet, per adult per day, is 1.5 grams of each. One tablespoon of flaxseed oil can provide this amount, or larger amounts of other linolenic-rich foods. Because high heat destroys linolenic acid, cooking in linolenic-rich oils or eating cooked linolenic-rich fish is unlikely to provide a sufficient amount.

EFA deficiency and Omega 6/3 imbalance is linked with serious health conditions, such as heart attacks, cancer, insulin resistance, asthma, lupus, schizophrenia, depression, postpartum depression, accelerated aging, stroke, obesity, diabetes, arthritis, ADHD, and Alzheimer's Disease, among others.

### **Omega-3 (Linolenic Acid)**

Alpha Linolenic Acid (ALA) is the principal Omega-3 fatty acid, which a healthy human will convert into eicosapentaenoic acid (EPA), and later into docosahexaenoic acid (DHA). EPA and the GLA synthesized from linoleic (Omega-6) acid are later converted into hormone-like compounds known as eicosanoids, which aid in many bodily functions including vital organ function and intracellular activity.

Omega-3s are used in the formation of cell walls, making them supple and flexible, and improving circulation and oxygen uptake with proper red blood cell flexibility and function.

Omega-3 deficiencies are linked to decreased memory and mental abilities, tingling sensation of the nerves, poor vision, increased tendency to form blood clots, diminished immune function, increased triglycerides and "bad" cholesterol (LDL) levels, impaired membrane function, hypertension, irregular heart beat, learning disorders, menopausal discomfort, and growth retardation in infants, children, and pregnant women.

### **Found in foods**

Flaxseed oil (flaxseed oil has the highest linolenic content of any food), flaxseeds, flaxseed meal, hempseed oil, hempseeds, walnuts, pumpkin seeds, sesame seeds, avocados, some dark leafy green vegetables (kale, spinach, purslane, mustard greens, collards, etc.), canola oil (cold-pressed and unrefined), soybean oil, wheat germ oil, salmon, mackerel, sardines, anchovies, albacore tuna, and others.

### **What makes it better ?**

Canola/rape seed oil is a uniquely cheap 10% source of omega-3. It is much like olive, which is expensive. While Flax oil has 5 times Omega 3 acids, it must be used fresh and in teaspoon amounts. Kacchi Ghani Variety (cold press mustard oil) is better than olive oil. As with olive oil kacchi ghani when consumed without heating ensures best results. As luck has it, all three of the cheapest oils are full of omega 3 : flax, canola & soy.

The only 2 essential oils -"vitamin F"- are linoleic (n-6 or omega-6) and alpha-linolenic (n-3 or omega-3). These 2 polyunsaturates are the feed-stock for 3 classes of hormones, and for nerve, brain, skin and cell walls (you may want to read that again).

The type you're probably lacking is omega-3, found only in fatty fish (like salmon, mackerel, & sardines), in flax(lin)seed, canola type rape seed (colza), mustard seed, chia, candlenut, wheat germ, some melon seeds, hemp, walnuts and some green leaf veggies.

### **Mustard Oils is good for**

Heart, cholesterol, triglycerides, blood fluidity, Crohn's disease, asthma, arthritis, cramps, adult diabetes, brain, MS, & smooth skin.